

CLAIMS

1. Device for controlling starting, driving or shifting processes of a motor vehicle with a drive motor (2), a gearshift (6) and a starting and shifting clutch (4), by means of which the drive motor (2) and the gearshift (6) can be placed in effective drive connection with one another, with a clutch actuation device (25, 26) as well as a control apparatus (13) which stands in connection with a power adjusting element (2) for controlling the output of the drive motor (2), and which is connected with sensors (14, 17, 19, 21) through signal engineering, which sense the accelerator deflection angle (A), the motor rotational speed (C) and the transmission input shaft rotational speed (E), wherein the control apparatus (13) has a first calculation module (28) with which a target motor rotational speed value (D) is calculated as a function of the transmission output shaft rotational speed (G) and the gear to be shifted, toward which the motor rotational speed (C) is adjusted in connection with such shifting processes; wherein the control apparatus (13) has a second calculation module (29), with which, outside of shifting processes, when the clutch is slipping (4), the fuel injection amount (B) for the drive motor (2) is calculated as a function of the accelerator angle (A) as well as of the motor rotational speed (C) and/or the transmission input shaft rotational speed (E); and wherein with a third control module (32), outside of shifting processes when the clutch (4) is not slipping, the fuel injection amount (B) of a current fuel injection amount value is adapted to a target fuel injection amount (F) specified by the motor vehicle driver through the accelerator deflection (A).

2. Device according to claim 1, wherein the clutch is constructed as an independently closing, centrifugally actuated clutch.

3. Device according to claim 1 or 2, wherein the control apparatus (13) is connected with a sensor (21) for recording the actuation position of the clutch (4).

4. Device according to one of the preceding claims, wherein the three calculation modules (28, 29, 32) are constructed in a separate device, whereby the latter is connected with the control apparatus (13) through signal engineering.

5. Device according to one of the preceding claims, wherein the control apparatus (13) is connected with a sensor (23) for determining the rotational speed (G) of the transmission output shaft (7).

6. Device according to one of the preceding claims, wherein the gearshift (6) is constructed as an automatic transmission.

7. Method for controlling starting, driving or shifting processes of a motor vehicle according to the preamble of patent claim 1, wherein during shifting processes, as a function of the transmission output shaft rotational speed (G) and the gear to be shifted, a target motor rotational value (D) is calculated to which the motor rotational speed (C) is adjusted, and wherein outside of shifting processes, when the clutch (4) is slipping, the fuel injection amount (B) for the drive motor (2) is set as a function of the accelerator deflection angle (A) as well as by the motor rotational speed (C) and/or the transmission input shaft rotational speed (E).

8. Method according to claim 7, wherein, outside of shifting processes, when the clutch (4) is not slipping, the fuel injection amount (B) of a current value is adapted to a target fuel injection amount (F) specified by the driver through the accelerator deflection (A).

9. Method according to claim 7, wherein the target motor rotational value (D) is calculated on the basis of the accelerator deflection angle (A) and the motor rotational speed (C).

10. Method according to at least one of claims 7 to 9, wherein the target motor rotational speed (D) is formed depending upon the torque characteristic of the drive motor (2) and/or the reduction of speed of the power train (1) as well as the transmission output rotational speed (G).

11. Method according to one of the preceding method claims, wherein the rotational speed (G) of the transmission output shaft (7) is ascertained for determining the operating situation of the motor vehicle (standstill, starting or driving operation).

12. Method according to one of the preceding method claims, wherein the actuation position of the clutch (4) is ascertained for determination of the operating situation.

13. Method according to one of the preceding method claims, wherein setting the motor rotational speed (C) takes place when a clutch slippage is ascertained on the clutch (4) which exceeds a specified target slipping value (D).

14. Method according to one of the preceding claims, wherein outside of shifting processes, a gear is only engaged when the target motor rotational speed (D), the motor rotational speed (C) and the transmission input shaft rotational speed (E) do not deviate from one another further than a specifiable rotational speed amount.

15. Method according to claim 14, wherein the specifiable rotational speed amount is increased after introducing gear engagement.